Open Peer Review

Reviewer: Ashley Morrison

Recommendation: Revisions Required

Scope, Objectives, Content

Is the article in scope for Journal of Open Educational Resources in Higher Education? Does the topic discuss an element related to open education, open data, open access, or other open topics? Is the topic an important one, or is it trivial or of low priority?

The scope and content of the article are relevant to JOERHE. Case studies incorporating OER are of interest to general readers, and STEM-focused content is very valuable to a subset of readers.

The content could be brought further within the scope of the journal by shifting more of the focus of the content to OER. At present, my reading is that the lab manual discussed in the paper has not yet been openly licensed and disseminated as OER. Depending on the timeline for that action, this could be a stronger submission once the product can be shared with readers.

Organization

Does the article proceed logically? As applicable, does the article adhere to a recommended structure and the section guideline?

The article proceeds logically. The article adheres to the recommend structure and section guidelines. No changes suggested.

Methodology, Approach, Conclusions

The methodology for data gathering and analysis should be appropriate for the problem addressed. Inferences from data should be sound--the author should not reach unsupported conclusions. Not all papers will use a scientific research methodology, but all should employ sound reasoning and an adequate balance between description and critical analysis. Consider: Is the article factually accurate? Is it clear the author knows, or has investigated, previous work on the subject of the article? Has the author failed to reference recent or seminal work on the subject?

The methodology and reasoning in this paper is sound and logical. As a description of a specific case study, the approach used by the authors is appropriate. To the best of my ability to assess it, all content is factually accurate with regard to course design and OER; however, I am unable to provide an authoritative assessment related to the components that address microbiology subjects and procedures.

There are a few articles, chapters, or other sources that may be relevant for inclusion in the literature review, specifically with regard to OER materials developed and designed to support labs in the sciences. Currently, the literature review does not address this intersection. Some of these sources are:

Prost, L. (2021). Open Educational Resources in the Biochemistry Laboratory: Development of An Interactive, Flexible, and Free Lab Manual. The FASEB Journal, 35.

Knight, S., Bentley, M., Regner, L., & Murphy, L. (2016). Open Educational Resources in the Laboratory: Moving the Introductory Biology Laboratory Manual onto Pressbooks. The FASEB Journal, 30, 776-16.

Liu, J. C., Johnson, E., & Haroldson, E. (2021). Blending Geoscience Laboratory Learning and Undergraduate Research With Interactive Open Educational Resources. In Blended Learning (pp. 315-332). Routledge.

Brogun, D. Y., Faucette, A. N., Polizzotto, K., & Tamari, F. (2021). Development of an online general biology open educational resource (OER) laboratory manual. Journal of microbiology & biology education, 22(2), e00133-21.

Tısoğlu, S. (2017). Exploring the use of open educational resources in chemistry laboratory course context: A case study.

Writing Style, References

Please indicate whether there are problems with expression or flow, but do not comment about grammar or basic edits. Do NOT take the time to do copy editing - that will be handled later in the process. However, general comments pointing out problems with style or format are useful.

There were no significant issues related to expression or flow. The writing style was accessible and easy to follow.

One style choice could be updated to enhance accessibility. The use of highlighting to indicate differences in Table 3 should be considered in combination with another visual cue to distinguish, if possible. Not all readers are able to perceive highlighting or other color-based signals. Underlining the relevant text may be an option.

I noticed that the authors switch between using the phrase "open education resource" and "open educational resource" occasionally. I believe both are commonly used, but sticking to one may be helpful for consistency.

In the attached file with notes, I have also pointed out some potential opportunities to include citations or references to support claims or otherwise clarify terminology. These are small suggestions and may not be necessary.

Application:

Does the article contribute knowledge or practical examples that will inform/improve others' practice or education?

Yes. The article provides a useful model for faculty / instructional designer / librarian collaborations for course material development. It's also valuable as a case study instructing STEM instructors who wish to transition traditional labs to online or remote modalities.

What are the stronger points/qualities of the article?

The case study provides detailed descriptions of the traditional lab and online lab assessments and specific differences between the two. I can see this being replicable for instructors who are making this transition. This content seems timely, with many courses remaining online or Hyflex past the peak of COVID-19. Table 1, which lays out the high level details and comparison of assessments between the two modalities, is especially useful.

The collection of relevant frameworks and standards in the Literature Review and Design/Methods sections serve as very helpful primers on topical backgrounds that are necessary to understand the goals of the authors. They provide the right amount of context for readers.

What are the weaker points/qualities of the article? How could they be strengthened?

As mentioned when addressing scope, this paper could be strengthened for inclusion in the Journal of Open Educational Resources in Higher Education by placing greater emphasis on the OER lab manual or other OER materials being produced by the team. Because the OER is not yet complete or available, this might be challenging to address at present, but I perceive this as critical to the scope of this particular journal.

As a reader, I was also left curious about the student success outcomes or other impacts of adapting the course for online learners and adopting new materials. Perhaps this is something to address in the Future Directions section if it is not something that could be discussed in Conclusions currently?

Peer Review Ranking: Scope

Does the topic discuss an element related to open education, open data, open access, or other open topics?

Relevant

Peer Review Ranking: Clarity

Clarity of expression and flow? Does the article proceed logically?

Very Clear

Peer Review Ranking: Contribution

Contribution to Higher Education research and/or practice

Contributes

Peer Review Ranking: Research Assessment

If this is a research paper, is the methodology appropriate?

Not Appropriate

Peer Review Ranking: Research Assessment

If this is a research paper, is the methodology appropriate? Does the article contribute knowledge or practical examples that will inform/improve others' practice or education?

Not Sound

Overall Evaluation

2- Accept